

SCOPE OF CLAIMS

1. A liquid chromatography apparatus comprising:

a one-dimensional analysis column for separating a sample into a plurality of components;

5 a preparative portion for fractionating the components separated by the one-dimensional analysis column, component by component, and for keeping the fractionated component;

a plurality of trap columns for trapping a component supplied from the preparative portion;

10 a two-dimensional analysis column for further separating a component trapped in the trap column, into a plurality of components; and

a path switching mechanism for implementing switching between:

15 a state in which the preparative portion is connected to a first trap column out of the plurality of trap columns and in which the two-dimensional analysis column is connected to a second trap column out of the plurality of trap columns, and

20 a state in which the preparative portion is connected to the second trap column out of the plurality of trap columns and in which the two-dimensional analysis column is connected to the first trap column out of the plurality of trap columns.

2. A liquid chromatography apparatus comprising:

25 a fractionation flow path for guiding a sample injected through a sample injection portion, to a one-dimensional analysis column by a mobile phase for one-dimensional analysis to effect separation thereof,

and for fractionating a separated component with an eluent and keeping the component and eluent in a preparative portion;

5 a trap flow path for feeding the component and eluent kept in the preparative portion, to a trap column by a diluent, and for making the component trapped and concentrated in the trap column, wherein the trap column comprises a plurality of trap columns;

an analysis flow path for guiding the component trapped in the trap column, to a two-dimensional analysis column by a mobile phase for two-dimensional analysis, and for analyzing the component; and

10 a path switching mechanism for simultaneously performing a trapping-concentration operation in one trap column of the trap flow path, and a two-dimensional analysis of a component from another trap column.

15 3. The liquid chromatography apparatus according to Claim 1 or 2, wherein an inside diameter of the two-dimensional analysis column is 0.03-0.3 mm.